

REMARKS

Reconsideration and allowance are respectfully requested.

The majority of claims stand rejected under 35 U.S.C. §102 for anticipation based on USP 5,974,453 to Anderson. The majority of claims stand rejected under 35 U.S.C. §102 for anticipation based on USP 6,131,095 to Low. The few remaining claims directed to a “mobile environment” are rejected for obviousness under 35 U.S.C. §103 based on Anderson or Low in view of Mizell. All claims stand rejected under 35 U.S.C. §102 for anticipation based on USP 6,201,965 to Mizell. These rejections are respectfully traversed.

To establish that a claim is anticipated, the Examiner must point out where each and every limitation in the claim is found in a single prior art reference. *Scripps Clinic & Research Found. v. Genentec, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991). Every limitation contained in the claims must be present in the reference, and if even one limitation is missing from the reference, then it does not anticipate the claim. *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Anderson, Low, and Mizell each fails to satisfy this rigorous standard.

Anderson translates a static identifier (a telephone number) into a dynamically assigned network address (an IP address). The telephone number corresponding to the device to be contacted is provided to hybrid server 135 that includes a dynamic hostname database 140 which stores IP addresses temporarily assigned to intermittently connected devices. The dynamic hostname database 140 returns an appropriate dynamically-assigned IP address corresponding to the telephone number. More specifically, a DNS server name is assigned to a device for log-on/connection to an Internet Service Provider (ISP). The DHCP protocol is employed to allocate a dynamic address to the static name for the intermittently-connected device. The dynamic server is updated to associate this static address to its allocated dynamic address. The static

name query is sent to an DNS server for resolution after reformatting the static address into a single centralized domain name.

The Examiner states that “the claimed DNS server reads on the HYBRID DNS SERVER 135; the claimed number portability database reads on the DYNAMIC DATABASE TABLE 225.” Anderson does not disclose a number or name portability database. Anderson's dynamic database table 225, as shown in Fig. 2, is part of the hybrid DNS server 135. That table 225 simply returns an IP address if one is stored in the table for the requested static identifier. See col. 5, lines 7-9 and lines 12-15. There is no teaching or suggestion of table 225 being a number portability database.

Anderson makes no mention of ported numbers or names that destroy the structured allocation of identities employed by Anderson. In claim 1, for example, Anderson fails to disclose “consulting an entity identifier portability database using the identifier to determine a network operator associated with the entity.” Anderson's use of “DIR-CON.COM” is irrelevant if the identifier to be resolved is ported and the complete DNS allocation is not coordinated with an applicable number portability database.

Nor is there disclosure in Anderson of “providing from the entity identifier portability database a network identifier corresponding to the network operation associated with the entity.” Contrary to the normal DNS procedures described by Anderson, claim 1 interrogates a number portability database which is outside of the handling of Internet/IP address allocations.

Similarly, claim 30 describes a server that includes “an identifier portability controller for consulting an entity identifier portability database with the identifier and obtaining from the entity identifier portability database a network identifier corresponding to a network operation associated with the entity.” Nor does Anderson disclose “wherein the resolution processor is

configured to use the network identifier in a process of resolving the identifier into the corresponding Internet address.”

Claim 15 recites resolving a telephone number corresponding to an entity to be contacted into an Internet address “using a domain name system (DNS) server and *a telephone number portability database*, wherein the DNS server accesses the telephone number portability database to determine a network operator serving the entity and sends a DNS resolution query for the telephone number to a DNS server associated with the serving network operator.” Where does Anderson teach first accessing a telephone number portability database and then sending a DNS resolution query as claimed? Claim 60 recites similar features in apparatus format.

Claim 20 recites “the first server analyzing the message, accessing a *telephone number portability database*, and retrieving therefrom a network identifier for a network associated with the entity,” and “the first server then sending the message to a second server associated with the identified network requesting resolution of the telephone number to return corresponding Internet address information.” Neither feature is described in Anderson. Claim 40 recites “code to consult an entity identifier portability database with the identifier”, “code to obtain from the entity identifier portability database a network identifier corresponding to network operator associated with the entity,” and “code to provide the network identifier for use in resolving the identifier into the corresponding Internet address.” Anderson lacks these features. Claim 45 recites “code to provide the network identifier for use in resolving the identifier into the corresponding Internet address, wherein the first DNS server is configured to use the information to facilitate resolution of the telephone number into a corresponding Internet address.”

Recognizing the importance of number portability is significant. When a subscriber physically re-locates or changes service providers, (which is not the same as a mobile telephone

subscriber moving to a different geographical location), it is desirable for the subscriber not to have to change his telephone number. Accordingly, number portability services permit a subscriber to “port” or transfer his telephone number to wherever the subscriber physically relocates or to a different service provider. For a mobile subscriber, an E.164 identification number, such as the MSISDN, is used to identify the mobile subscriber, the subscriber’s subscription, and the subscriber’s current location. When a mobile subscriber changes service providers, a mobile subscriber number portability database is updated to reflect the change.

In order to accommodate portability of the E.164 number within the domain naming system for both different geographical locations and different service providers, it would be necessary to update the E.164 and IP-address relationship in the DNS databases whenever a portability process is executed for a specific user. In addition, it would be necessary to upgrade the DNS infrastructure with many more DNS servers to handle the millions/billions of numbers that exist in the telecommunications world. There must be coordination of the user location or subscription information between the DNS and telecommunication systems. Service provider’s management systems would need to be updated to attach the DNS/DHCP management routines to the same management routines used to handle the portability service of the E.164 numbering scheme. Furthermore, the very openness and flexibility of the Internet in allocating temporary IP-addresses to user devices potentially undermines the integrity of simple, one-to-one mapping tables between E.164 telephone numbers and IP-addresses. Sophisticated protection against hackers modifying the stored E.164 numbering resources would be needed. If tampering resulted in an inability to communicate with that E.164 number, the consequences could be very serious including lost income, decreased customer satisfaction, and increased user complaints.

The present inventors provide a much simpler and more secure way of permitting resolution of traditional telephone numbers and other entity/device identifiers into Internet addresses. It further accommodates portability of telephone numbers and other entity/device identifiers without having to substantially modify or rework the DNS infrastructure or various established number portability schemes. Self-contained, additional functionality is readily implemented on a DNS server to allow smooth IP address resolution of telephone numbers or other entity/device identifiers by taking advantage of existing portability databases without impacting the existing networks that create and maintain such portability databases.

These problems and the solutions offered by the inventors are not disclosed by Anderson or by Mizell or by Low. Mizell teaches a method for assigning an IP address to a mobile terminal and in that method accounts for the mobility of the terminal. Indeed, Mizell teaches that the problem being addressed is:

there is no way for the remote terminal to contact the mobile terminal. This is because the mobile terminal does not have a physical location. In fact, the mobile terminal can be connected to one of many different MSCs in one of many different wireless networks. Therefore, there is no way to "look up" an address for the mobile terminal.

But there is no discussion of number or MSISDN portability.

The Examiner reads number portability database on HLR 16. But the HLR 16 in Mizell is simply used to determine the MSC where the mobile terminal is currently located. See for example Mizell's summary of the invention text: "[u]pon initiation of a query to the DNS server through the PDN, the DNS server signals the HLR for the identification of the switch that is associated with the mobile terminal. The HLR returns an identifier for the switch." Column 2, lines 12-14. The HLR-identified MSC switch simply knows in which cell the mobile terminal is

located. There is no teaching in Mizell that the HLR includes number portability or MSISDN portability information. So like Anderson, Mizell fails to address the problem with ported numbers or names when trying to allocate an IP address to a called entity.

Low does not remedy the deficiencies of Anderson or Mizell. The Examiner states that the “claimed number portability database reads on the SERVICES RESOURCE DATABASES 52.” The databases 52 store “service resources” which are WWW pages referred to as “phone pages” that include logic and data to perform an Intelligent Network (IN) type service. See col. 12, lines 65-67. Those service resources are used in a telephone network to obtain the current telephone number of a called or “target” party. A DNS is supplied with a dialed number and provides a uniform resource indicator (URI) indicative of the location on the Internet of a current telephone number for the target party. The URI is used to access the current telephone number over the Internet for use in setting up a call to the target party.

Low’s used of a DNS to find the current telephone number for setting up a call to a target party does not teach, for example, the steps recited in claim 1 of:

- “consulting an entity identifier portability database using the identifier to determine a network operator associated with the entity”
- “providing from the entity identifier portability database a network identifier corresponding to the network operation associated with the entity”
- “using the network identifier in a process of resolving the identifier into the corresponding Internet address.”

Low does not teach both consulting a number portability database using for example a called number to obtain a network identifier associated with the called party and then using that network identifier to resolve the called number into a corresponding Internet address.

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Accordingly, the three references alone or in combination neither disclose nor suggest the features of the independent claims. In addition, the Examiner has not provided any application of features of the dependent claims to specific numerically identified elements in any of these three patents or to specific portions of text in any of these three patents. If any rejection is made against a dependent claim, applicants request that the Examiner read that dependent claim onto a numerically identified element or specific text to better apprise Applicants of the basis of the rejection.

The application is in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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